AMSAT News Service Weekly Bulletins
Issue: ANS-043
Date: 2006-02-12
Sources: amsat-ans-2006-ans-043-weekly.txt

AMSAT NEWS SERVICE
ANS-043

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

********** AMSAT 2006 Space Symposium **********

The AMSAT web team has posted informational pages on the AMSAT web site. You can find the announcement with many links at:
http://www.amsat-org/amsat-new/symposium

Future announcements including the Call For Papers, Online Registration and Online Hotel Registration will be available approximately 1 April 2006.

****

In this edition:

* SuitSat is Still Alive
* AMSAT-UK Announces New Satellite Transponder Project
* AMSAT Awards This Week
* SuitSat Telemetry Requested
* ISS ARISS Packet Digipeater Turned OFF
* Bill Reaches 100+ on DXCC Quest From ISS
* January/February AMSAT Journal Update
* ARISS Status for the Week of February 6, 2006

SB SAT @ AMSAT $ANS-043.01
SuitSat is Still Alive

AMSAT News Service Bulletin 043.01
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.01

Over this past week SuitSat reception reports have been received from around the world. Everyone is in agreement that SuitSat's 145.990 MHz FM downlink signal is extremely weak. Using AMSAT's RF Link Budget spreadsheet along with data from well equipped amateur satellite stations (and a few assumptions to fill in the gaps) calculations indicate that SuitSat's transmitter power is in the range of 1-10 milliwatts.

The following are representative of the SuitSat signal reports:

Reception reports from Kenneth, N5VHO and Nick, KC5KBO using the W5RRR station at the Johnson Space Center in Houston say, "Ident-ifiable were brief portions of the English voice recording, the CW id and SSTV. The Telemetry data was just starting to be read when the signal faded below the noise level."

From Japan Kobayasi, JH0MHE copied SuitSat's signal peaking at 59+20dB on an EME system.

Mak, SV1BSX in Athens, Greece, using a 9 element vertically polarized Yagi antenna with his VHF All-Mode TRIO TR-9130 radio reported, "Suitsat SSTV signal heard on a pass over Eastern Europe at only 13° elevation! The signal was weak (no deflection on my S-meter) but 100% audible for few seconds in NBFM."

Keith, ZS6TW reported receiving SuitSat on a 50° pass using 2 X F9FT 17 elements yagis with 16dBd gain connected to a Yaesu FT-847. He copied the Russian language segment of the recorded message.

Stefan, VE4NSA in Winnipeg, Manitoba, Canada copied SuitSat on a 60° pass using a HyGain 216SAT 2M antenna with preamp connected to his Yaesu FT-847. He reported a weak FM signal S1-3, child voice making an announcement followed by male voice with strong fading.

Ed, N9AWP in Indiana reported hearing SuitSat's CW and SSTV signal followed by a heterodyne on a 53° elevation pass using an Arrow 3 element antenna connected to his Kenwood THF6A handheld in CW mode.

To listen to SuitSat recordings received around the world go to AJ's web page at http://www.aj3u.com.

SuitSat has continued to be covered by the popular press this past week. The Times Union in Albany, New York ran a story: http://timesunion.com/ss.asp?s=446685&c=&b=

The Times in London: http://www.timesonline.co.uk/article/0,,13509-2027835,00.html

Gould, WA4SXM has written a PowerPoint presentation suitable for club talks. It is available on-line at: http://www.reelfootarc.com/blg/article.php?id_art=31. Follow the blog article and click the link to the presentation. It is 3MB in size.

[ANS thanks amateur radio operators around the world for the above information]

/EX

SB SAT @ AMSAT $ANS-043.02
AMSAT-UK Announces New Satellite Transponder Project

AMSAT News Service Bulletin 043.02
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.02

AMSAT-UK is delighted to be able to announce its participation in the SSETI ESEO satellite project.

ESEO - The European Student Earth Orbiter is a satellite planned for launch in late 2008 into a Geo-stationary transfer orbit similar to the initial orbit of AO40 and to those planned for Eagle and P3E.

In December 2005 two AMSAT-UK members were invited to attend a SSETI Workshop at the European Space Agencies ESTEC facility in the Nether-lands. This workshop, which lasted a week, had over eighty students in attendance from more than twenty universities around Europe.

The involvement of the AMSAT-UK team with the project was confirmed at the Workshop and the team were elected as "Honorary Members" of the SSETI Association in appreciation of their work supporting the previous SSETI Express project.

The prime communications system for ESEO is being developed by the University of Wroclaw in Poland and will operate on "commercial" S-Band space frequencies. It will provide all the usual telecommand and telemetry facilities and use standard ESA CCSDS packet communication techniques.

ESEO also has a need for a redundant communications system - one that can operate in the event of a primary system failure but can also function satisfactorily if and when the spacecraft is not in its intended earth-pointing mode. This is where AMSAT is planning to assist.

The current project calls for a unit that can receive telecommands from earth on UHF (435MHz), transfer those to the OBC via a CAN bus. Additionally, it must transmit telemetry and mission data to the ground on S-BAND (2.4GHz). We are planning to use omni-directional antenna systems so the data rate will necessarily be quite low although output power will be approximately 9 watts.

When in orbit, it is likely that the student experiments will be completed within a few weeks to months from launch after which time it will become available as a linear U/S mode transponder.

The ESEO spacecraft will have a rectangular structure and a mass of 120kg. The solar panels will be deployable and steerable while the propulsion system will use Nitrogen gas. The 50kHz wide mode U/S transponder will be switchable from a conventional linear design to a fully digital design based on DSP techniques using the G6LVB STELLA firmware. Two UHF canted monopoles on opposite ends of the spacecraft will be used to receive signals on U band. The S Band output of 9 Watts will feed two turnstiles or quadrilifar helixes. As well as the transponder, the unit will also provide 400 bps BPSK telemetry in AO40 format.

Obviously we cannot expect the transponded signals on the ground to be as strong as we enjoyed from AO40 but they should provide worldwide communication similar to the earlier AO-13 project.

The AMSAT-UK team includes G4DDK, G7OCD, G6LVB, G0MRF, & G3VZV who were responsible for the S-Band transmitter on SSETI Express.

This new opportunity to participate in this exciting venture is very much a result of the impressive support that the amateur fraternity around the world gave to the SSETI Express project - so thank you and congratulations!

We can also report the good news that a student team from the Technical University of Budapest has been added to the SSETI programme to work on the on-board Electrical Power System. This team, under the leadership of Dr. Andras (Bandi) Gschwindt, HA5WH, has masterminded similar systems on AO10, AO13 and AO40 all of which have proven to be extremely successful.

More news will be published as soon as it becomes available through the usual channels. At the time of writing the SSETI ESEO webpages are not up-to-date but new information is being added regularly, so please check http://www.sseti.org

[ANS thanks Graham, G3VZV for the above information]

/EX

SB SAT @ AMSAT $ANS-043.03
AMSAT Awards This Week

AMSAT News Service Bulletin 043.03
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.03

Bruce, KK5DO, AMSAT Director Contests and Awards reports this week congratulations go out to all of the following.

John Choo VE7JRX Satellite Communicators Club Award
Bill Greene VE7WFG Satellite Communicators Club Award
Zachary Schrempp KE7EYQ Satellite Communicators Club Award
Masahiro Myoga N3LQ Satellite Communicators Club Award
Jack Burris K6JEB Satellite Communicators Club Award

Bill Ward GM0ICF Satellite Communications Achievement Award #428
Eric Christensen KF4OTN Satellite Communications Achievement Award #429

Zachary Schrempp KE7EYQ South Africa Communication Achievement Award #US93
Robert Fairfield K7RQN South Africa Communication Achievement Award #US94

Shigekazu Yoshikawa JE2TLZ 51 on 51 Award #61
Andrzej Laczmanski SP1WSR 51 on 51 Award #62

To see all the awards visit http://www.amsat.org.

[ANS thanks Bruce, KK5DO for the above information]

/EX

SB SAT @ AMSAT $ANS-043.04
SuitSat Telemetry Requested

AMSAT News Service Bulletin 043.04
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.04

The exact cause of SuitSat's transmitter power loss remains unknown. The transmitter and controller are still working. The voice messages, Telemetry and SSTV image is still being sent every 9 minutes on a repeating cycle.

While the downlink seems too weak for most stations to copy, if you have a tracking antenna system then the SuitSat team would like to hear from you when you are able to get some reliable telemetry information.

Specifically what we need is the following:

Temperature: Every few minutes the voice will speak the temperature
Battery Voltage: Its on a 28 volt scale.
Date and time UTC you heard this data.
Location: where you are when you head this data.

At the beginning of each 9 minute cycle, SuitSat-1 will ID and then speak the Mission time, Temperature and voltage. Richard, N2SPI was among the first to hear and record the complete telemetry message. Richard reports he copied the telemetry woman saying, "...(Mission) time

is 006607 minutes, the temperature is 12 degrees celsius, the battery voltage is 26.(?) ... (volts)". This audio file is available on-line at the http://www.aj3u.com site.

If you hear CW, get ready to decode SSTV. The order will be a DTMF tone, followed by the CW ID and then SSTV. This is also a good time to listen for the System Telemetry. The Telemetry comes right after the SSTV image. Then the whole process repeats.

Lou, W5DID, one of SuitSat's builders, told ANS, "The estimate is Suitsat will run 9 days 9 hours. That will cover the weekend of February 11-12. We need telemetry! This is even more important as the mission nears it's end."

Frank, KA3HDO, AMSAT-VP for Human Spaceflight Programs, and also is the ARISS International Chairman, said, "Now, more than ever, we need to see how long SuitSat will stay in operation. The SuitSat team plans to provide special recognition to the person that copies the last SuitSat telemetry, specifically the Mission Time and Battery Voltage."

Please send telemetry reports to suitsat@comcast.net.

[ANS thanks the ARISS team for the above information]

/EX

SB SAT @ AMSAT $ANS-043.05
ISS ARISS Packet Digipeater Turned OFF

AMSAT News Service Bulletin 043.05
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.05

Reminder: The ARISS packet mode aboard the ISS has been turned OFF for the duration of SuitSat project. Please do not transmit any packet or voice data on the 145.990 MHz SuitSat downlink frequency.

[ANS thanks the ARISS team for the above information]

/EX

SB SAT @ AMSAT $ANS-043.06
Bill Reaches 100+ on DXCC Quest From ISS

AMSAT News Service Bulletin 043.06
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.06

Bill was able to work a few more stations prior to and just after the space walk which deployed SuitSat-1 and now has exceeded the 100 mark.

The entities worked since the last report are Brunei (V8), Chagos Is. (VQ9), Falkland Is. (VP8), Malaysia, E. (9M6), Reunion (FR), Tajikistan (EY) and Trinidad & Tobago (9Y-9Z). The complete list of DXCC entities worked now stands at 102 countries worked from space.

This past week also had three school contacts on Cmdr. Bill McArthur's schedule. By the end of the last contact, Bill had made his 24th successful

contact. That contact breaks the previous record of 23 set by Leroy Chiao during Expedition 10.

The contact record for an expedition was also broken this week and stands at 25 since Valery Tokarev also had a school contact with students in Russia earlier in the expedition.

With several weeks still left for Expedition 12, the final records have yet to be established.

Congratulations Bill and keep it up!

[ANS thanks Kenneth, N5VHO for the above information]

/EX

SB SAT @ AMSAT $ANS-043.07
January/February AMSAT Journal Update

AMSAT News Service Bulletin 043.07
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.07

Ed, WA4SWJ, Editor of The AMSAT Journal sends this update:

The January/February 2006 issue of The AMSAT Journal is completed. It is in for final proofreading. After comments are received and any corrections made, it will be shipped off to the printer and then into your hands. Thank you to all the contributors to this issue.

I also want to specifically thank Bill Hook, W3QBC, for his outstanding editing help. He is one of the most thorough guys I've ever known and he helps make the Journal significantly better.

Now is a great time to think about writing articles of your own for the next Journal. I always need content and actively seek it. I will help you get it into publishable form. Please contact me if you have something to place in the Journal.

The deadline for the next issue for editing is March 10th. This is a slightly earlier deadline than before. I would like to get the Journal out a little earlier in the two-month cycle. So get those keyboards heated up and send those articles in! The Journal's e-mail address is journal@amsat.org

[ANS thanks Ed, WA4SWJ for the above information]

/EX

SB SAT @ AMSAT $ANS-043.08
ARISS Status for the Week of February 6, 2006

AMSAT News Service Bulletin 043.08
From AMSAT HQ SILVER SPRING, MD.
February 12, 2006
To All RADIO AMATEURS
BID: $ANS-043.08

1. SuitSat Deployed
SuitSat was successfully activated and deployed during the February 3

EVA at 06:03 pm ET. The timing, micro-controller functions and audio have operated as expected; however, the signal from SuitSat is extremely weak. Ground stations with minimal equipment monitoring the satellite have had limited success in hearing the satellite's transmissions, although some operators have picked up partial messages including the station identification RS0RS, one of the Russian greetings, and some SSTV image information. Stations are encouraged to continue listening to obtain any information and telemetry that might be helpful with this and any future projects of this type.

2. Media Coverage of SuitSat
It is clear that SuitSat has captured the imagination of students and the general public worldwide. The number of hits the SuitSat website http://www.suitsat.org received over the first 5 days of February approached 5 million, having been accessed either directly or from over 2000 referring sites. The international media coverage has been extensive. SuitSat articles have been translated into German, Polish, Italian, French, Japanese, Portuguese and others. ARISS, ARRL and AMSAT members gave interviews to The Houston Chronicle, the Canadian Broadcasting Corporation, the Associated Press, CBS, The Herald Times News, Florida Today, the Washington Post, the Washington Times, National Geographic News, the Discovery Channel and National Public Radio. Reports were given by these and other media including MSNBC, CNN and Aljazeera. NASA television covered the deployment live. Links to some of the on-line articles from the past week follow.

Pre-Deployment
From Playfuls.com (Targu Mures,Romania)
"Used Space Suits, The Latest Trend In Satellites"
http://www.playfuls.com/news_0958_Used_Space_Suits_The_Latest_Trend_In_Satellites.html

The Discovery Channel
"Spacesuit Set To Become Satellite"
http://dsc.discovery.com/news/briefs/20060130/suitsat_spa.html

NPR
Interview with ARISS Chairman, Frank Bauer
"Space Suit to Orbit Earth" (Includes audio)
http://www.npr.org/templates/story/story.php?storyId=5183146

A Polish translation of the SuitSat paper resulted in an article published for the general public at AstroNet, the most popular astro-portal in Poland.
http://news.astronet.pl/news.cgi?5236
Another article was posted for ham operators at the Polish Amateur Radio Union.
http://pzk.org.pl/modules.php?op=modload&name=News&file=article&sid=1019&mode=thread&order=0&thold=0

ARRL
"Countdown is On for 'SuitSat-1' Deployment from ISS"
http://www.arrl.org/news/stories/2006/02/01/2/?nc=1

CBS News
http://www.cbsnews.com/htdocs/space_place/framesource_recent.html

CNN
"One small step for trash is giant leap for ham-kind"
http://www.cnn.com/2006/TECH/space/02/02/recycled.spacesuit.reut/index.html

Post Deployment - SuitSat Activated
ARRL
"'SuitSat-1' Launched from ISS"
http://www.arrl.org/news/stories/2006/02/03/103/?nc=1

MSNBC
"Spacesuit floats off to become a satellite"
http://www.msnbc.msn.com/id/11162380/

Aljazeera
http://english.aljazeera.net/NR/exeres/AF1CA663-BD6D-4C81-8A9A-0623C50220D9.
htm

AMSAT
http://www.amsat.org/amsat-new/index.php

Yahoo.com
"Spacesuit Still Alive, Giving Weak Signal"
http://news.yahoo.com/s/ap/20060205/ap_on_sc/space_station

Spaceflight Now
"Castaway spacesuit radio experiment still alive"
http://www.spaceflightnow.com/station/exp12/060204suitsat.html

3. SuitSat-1 is AMSAT-OSCAR-54
SuitSat-1 has been given an Orbiting Satellites Carrying Amateur Radio (OSCAR) number. It has been denoted AMSAT-OSCAR-54.

4. Florida School Contact Successful
On Thursday, February 2, Bill McArthur, KC5ACR, answered 13 questions posed to him by 13 Timber Creek High School students in Orlando, Florida. Sarah Longino, longtime friend of McArthur's, was the coordinating teacher for the contact. Approximately 100 students, teachers, and parents gathered for the event. John Winn, Commissioner of Education for the state of Florida, was also present. Among the media covering the event were the Orlando Sentinel, CBS affiliate WKMG, Orange County Public Schools Public Relations office, East Orlando Sun, and the Timber Creek newspaper and television station. The Orlando Sentinel article, "Biology students connect with space station," may be viewed on their website:
http://www.orlandosentinel.com/news/custom/space/orl-spacestation0306feb03,0
,4677459.story?coll=orl-home-headlines

Echolink and IRLP were both used for the event. Echolink had 32 connections from the following 9 countries: USA, Japan, Germany, Australia, Korea, Russia, Thailand, Turkey, and the UK. IRLP had 10 connecting nodes from the U.K., U.S.A., Canada, Japan, and Australia.

Dale High School in Dale, Oklahoma completed an ARISS contact on Tuesday, February 7 at 14:56 UTC.

E.L. DeGolyer Elementary School in Dallas, Texas completed an ARISS contact on Tuesday, February 7 at 16:32 UTC.

Children at Pine Ridge Middle School in Naples, Florida completed an ARISS contact on February 8 at 15:24 UTC. The contact included students from neighboring Immokalee Middle School.

5. Upcoming School Contacts
Cosmos Centre Charleville in Charleville, Australia has been approved for an ARISS contact. It is planned for Friday, February 17 at 07:34 UTC via the telebridge station WH6PN in Hawaii. The audio from this contact will be available on the EchoLink AMSAT (node 101 377) and the JK1ZEW (node 277 208) conference rooms. It is expected to be fed into the 9010 IRLP Discovery Reflector as well. The event will be webcast. To join the event:
URL: https://e-meetings.mci.com
CONFERENCE NUMBER: 1642340

PASSCODE: SPACE STATIO

The Discover Engineering Family Day event, which will be held at the
National Building Museum in Washington, D.C. on Saturday, February 18,
has been scheduled for a contact at 16:04 UTC. The telebridge station
WH6PN in Hawaii will assist in the contact. The audio will be available
on the EchoLink AMSAT (node 101 377) and the JK1ZEW (node 277 208)
conference rooms. It is also expected to be fed into the 9010 IRLP
Discovery Reflector. The event will be webcast.
To join the event:
URL: https://e-meetings.mci.com
CONFERENCE NUMBER: 1642601
PASSCODE: SPACE STATIO

6. ARISS International Meeting Held
The monthly ARISS International Team meeting was held on January 24.
SuitSat, training of the next taxi flight crew member, Marcos Pontes
and the Columbus Module were discussed. Minutes have been posted to
the ARISS website. See: http://www.rac.ca/ariss/arisstel23.htm.

[ANS thanks Carol, KB3LKI, for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining donors
to AMSAT Project Funds, will be eligible to receive additional benefits.
Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
JoAnne Maenpaa, WB9JEJ
WB9JEJ at amsat dot org